

COUNTRY ANALYSIS BRIEFS

Arab Maghreb Union

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Mauritania

Mauritania began producing oil for the first time in February 2006.

Mauritania, located on the northwest coast of Africa, gained its independence from France in 1960. In August 2005, a bloodless coup ousted President Taya, who had come to power in a coup in 1984, and installed a military council led by Colonel Ely Ould Mohamed Fal. The military council has stated its intention of remaining in power for up to two years while it works to create a democratic institution and hold organized elections. Under former President Taya, the Mauritanian government worked to reduce poverty, improve the health and education systems and promote privatization of government-owned businesses.



Historically, Mauritania has experienced economic growth from the iron ore and fishing industries. However, in February 2006, Mauritania began producing oil for the first time, and oil stand to bolster future economic growth in the country. Mauritania's real gross domestic product (GDP) grew an estimated 5.4 percent in 2005 and is projected to grow by 26.0 percent in 2006. Currently, Mauritania is the poorest country in the Arab Maghreb Union (AMU) which includes the countries [Morocco](#), [Tunisia](#), [Algeria](#) and [Libya](#). Mauritania's per capita income is only \$443, with almost 30 percent of the population living on less than \$1 a day, and 69 percent living on less than \$2 a day. Despite government reforms set in place since 1992, Mauritania still experiences occasional periods of high inflation. In the second half of 2004, prices rose because of food shortages, bringing the inflation rate for the year to 10.1 percent. In 2005, due in part to high oil prices, inflation remained high at 14.0 percent. An 8.0 percent inflation rate is forecast for 2006.

In 2002, Mauritania completed the World Bank/International Monetary Fund (IMF) [heavily indebted poor countries \(HIPC\)](#) initiative. This led to debt relief of \$1.1 billion, which almost halved Mauritania's net debt burden. Despite its improving economic environment, Mauritania remains vulnerable to several sources of instability. With an economy strongly reliant upon primary products (mining, fishing, and agriculture), fluctuations in international markets, as well as external shocks like weather, can have a profound impact on Mauritania. In 2006, the U.S. government removed Mauritania from eligibility for the African Growth and Opportunity Act ([AGOA](#)), due to not meeting requirements set forth under the act. To maintain eligibility status for

the AGOA, African countries are required to have established, or be working towards the establishment of various reforms set forth under section 506A(a)(1) of the AGOA, which include market-based economies, the rule of law and political pluralism, protection of human rights and worker rights and policies to reduce poverty.

Energy

In February 2006, Mauritania began producing its first oil from the [Chinguetti oilfield](#), which is located offshore 56 miles southwest of Nouakchott. The field has estimated proven reserves of 123 million barrels of oil. Currently, the field is producing around 15,000 barrels per day (bbl/d), but output is expected to reach capacity of 75,000 bbl/d by the end of 2006. Woodside Petroleum operates the Chinguetti field with a 47.38 percent interest and is joined with partners Hardman Resources (19.01 percent), Mauritanian-government controlled Société Mauritanienne des Hydrocarbures (12 percent), BG Group (10.23 percent), Premier Oil (8.12 percent) and Roc Oil (3.25 percent). The Mauritanian government created the national oil company in 2004.

In addition to Chinguetti field, Mauritania possesses several other promising offshore oil and gas fields. The Tiof oilfield, which is located 16 miles north of the Chinguetti field, may contain up to 350 million barrels of oil. The Tiof-6 exploration well was drilled successfully in February 2005. Woodside and its partners believe that the field may start producing at 50,000 bbl/d in mid-2007, with production potentially rising to 150,000 bbl/d in 2008. The Banda field, located 12 miles east of Nouakchott, may contain natural gas reserves of 3-5 trillion cubic feet (Tcf), while the [Pelican natural gas field](#) is estimated to hold 1 to 1.5 Tcf. UK-based Dana Petroleum is working with LNG operators to determine development options for the Pelican field.

With Mauritania's best offshore blocks under contract, other companies have lined up to explore onshore blocks, particularly in the Taoudeni Basin in the northeastern part of the Mauritanian desert. In January 2005, France's Total signed two production sharing contracts, covering nearly 22,394 square miles. Spain's Repsol, China National Petroleum Co. and Woodside Petroleum are among the companies that have been awarded Taoudeni blocks.

In March 2005, the Mauritanian government created a separate ministry of oil and energy to handle the energy portfolio. The ministry is headed by Mohamed Aly Ould Sidi Mohamed. In 2005, Mauritania imported 24,000 bbl/d of petroleum products, as its refinery is not in use. Mauritania also consumes a significant amount of "non-commercial" (i.e., wood, biomass) energy.

Morocco

Morocco is working to diversify its economy, which is dominated by the agricultural sector.

Morocco, located in Northwest Africa, gained its independence from France in 1956. Morocco is a constitutional monarchy, in which, King Mohammed VI possesses more authority than either the judiciary or the legislature. Since King Mohammed VI ascended the throne in July 1999, he has actively pursued various economic reforms including the privatization of state-run businesses.



In 2005, Morocco experienced real GDP growth of 2.0 percent, a decrease from the 3.7 percent GDP growth achieved in 2004. Key factors that instigated the slowdown in GDP growth included Morocco's worst drought in 60 years, which cut agricultural output in the country by nearly 50 percent. In addition, the expiry of the Multi-Fiber Agreement in 2005 allowed for Chinese products to flood Morocco's major European textile export market, which caused a 16 percent drop in Moroccan exports to the trade area. Finally, high oil prices negatively affected the Moroccan economy as the country's energy import bill increased. However, 2006 forecast GDP growth is expected to increase to 4.6 percent due to the Moroccan government's firm commitment to enforce economic reforms, which include working to decrease the country's economic dependency on the volatile agricultural sector. Also, China made a voluntary decision to restrict its imports to the European Union until 2007.

Both the International Monetary Fund (IMF) and the World Bank have provided valuable funding to Morocco as the country continues to seek economic liberalization. In June 2005, the World Bank endorsed a \$150-million loan to Morocco that the government will use to provide housing for the urban poor. The World Bank also approved a \$200-million loan in December 2005 that the government will use to make several financial reforms. In the IMF's Article VI report (released in 2005) on Morocco, the IMF noted the need for Morocco to expand output of the non-agricultural sector, but praised the country's ability to maintain stable prices, a stable current account and stable foreign reserves. In addition, Morocco made a commitment to improve the quality and transparency of its economic statistics by joining the IMF's Special Data Dissemination Standards (SDDS).

On June 15, 2004, the U.S. and Morocco signed a Free Trade Agreement (FTA). The FTA immediately eliminated tariffs on 95 percent of bilateral trade, with the remaining tariffs to be eliminated over the next nine years. The U.S.-Morocco FTA is the first in Africa and the first under the Middle East Free Trade Area initiative. Morocco has also signed several agreements with the European Union on economic cooperation, and one establishing a free trade zone for industrial goods over a 12-year transition period. In addition, Morocco is a partner country of the [European Free Trade Agreement](#).

Territorial Disputes

As of March 2006, the [decades-old dispute](#) between Morocco and the Polisario Liberation Front over the Western Sahara region continues. A referendum on the future of the territory, a former Spanish colony, was scheduled for January 1992 under [U.N. auspices](#); however, the referendum has yet to be held. A U.N.-brokered cease fire and settlement plan went into effect on September 6, 1991 although a political settlement is still absent. Recently, there has been increased interest in oil exploration contracts in areas offshore Western Sahara. The legality of these activities will

likely remain in question until the status of Western Sahara is permanently settled.

Morocco currently produces only small amounts of oil and natural gas.

Oil and Natural Gas

According to January 2006 estimates by the *Oil and Gas Journal* (OGJ), Morocco has proven oil reserves of 1.07 million barrels and natural gas reserves of 60 billion cubic feet (Bcf). Morocco may have additional hydrocarbon reserves, as many of the country's sedimentary basins have not yet been explored.

The Moroccan Office of Hydrocarbons and Mining (ONHYM) has become optimistic about finding additional reserves - particularly offshore - following discoveries in neighboring Mauritania. At the end of 2005, 19 foreign companies were operating in Morocco, with an estimated total investment of \$56 million per year. In May 2004, China Offshore Oil Corporation (CNOOC) received a license to drill near Agadir. In April 2004, Norway's Norsk Hydro signed a 12-month exploration contract for the Safi Offshore Northwest zone, while Denmark's Maersk signed an eight-year agreement for eight blocks near Tarfaya. In March 2004, Calgary-based Stratic Energy committed to a three-year exploration program in two onshore blocks in northwest Morocco. The two concessions cover approximately 1,544 square miles. Other foreign firms engaged in exploration include Petronas, Cooper Energy NL, Shell, Total, and Tullow Oil.

Morocco produces small volumes of oil and natural gas from the Essaouira Basin and small amounts of natural gas from the Gharb Basin. Consequently, Morocco is the largest energy importer in northern Africa. The country's total yearly costs for energy imports range from \$1- \$1.5 billion. However, high oil prices in 2005 increased import costs to approximately \$2 billion for the year. In 2003, the Moroccan government announced that foreign companies could import oil without paying import tariffs. This followed a 2000 decision, in which, Morocco modified its hydrocarbons law in order to offer a 10-year tax break to offshore oil production firms, and to reduce the government's stake in future oil concessions to a maximum of 25 percent. The entire energy sector is due to be liberalized by 2007.

Recent activity in Western Sahara, which is believed to contain viable hydrocarbon reserves, has been controversial. In 2001, Morocco granted exploration contracts to Total and Kerr-McGee, angering Premier Oil and Sterling Energy, which previously had obtained licenses from the Polisario government. In 2005, the government-in-exile of the Western Sahara invited foreign companies to bid on 12 contracts for offshore exploration, with hopes of awarding production sharing contracts by the end of 2005. Both Premier Oil and Sterling Energy received conditional exploration rights. Foreign companies operating under Moroccan concession in Western Sahara have become targets of international protest campaigns. These companies include Total, Wessex Exploration, Svitzer (the British subsidiary of the Dutch company Fugro), Wales' Robertson Research International and Norway's TGS Nopec. All have ended their operations in Western Sahara, with the exception of Kerr-McGee. As of November 2005, the company was the last to be drilling in Western Sahara, although the Polisario government has pressured it to pull out.

Morocco is a transit center for Algerian gas exports to Spain and Portugal. These are transported across the Strait of Gibraltar via the 300-350 Bcf/year Maghreb-Europe Gas (MEG) pipeline. Natural gas from the MEG pipeline will be used to power Morocco's power project in Al Wahda.

Refining

Morocco has two refineries that are owned by Saudi-company Corral Holdings Societe Marocaine d'Industrie de Raffinage (Samir). The refineries are located at Mohammedia and Sidi Kacem and have a combined capacity of 154,901 bbl/d. In 2004, the Mohammedia plant returned to near full-capacity output levels, following the completion of repairs needed after a severe flood and massive fire in November 2002. Because of the completed repairs, refinery output surged 49 percent in 2004. The Mohammedia plant currently produces 80 – 90 percent of the country's refined petroleum products. In June 2005, Samir awarded a \$628 million contract to modernize the Mohammedia refinery to a consortium led by Italy's Snamprogetti SpA and Turkey's Tekefen Company. Morocco hopes the refinery upgrade will prepare the refinery for competing with foreign producers when the market is liberalized in 2009. The upgrade is expected to be complete in 2008.

Morocco is using renewable energy sources to provide electricity to rural areas of the country.

Coal and Electricity

Morocco's electrical sector traditionally has been controlled by the state-owned Office National de l'Electricité (ONE), which the government reorganized in 1995 in order to regain profitability. Due to a growing population and economic development, Morocco's electricity demand is increasing rapidly. Power shortages and a desire to control public spending have led the Moroccan government to make more use of the private sector to meet the country's power needs. The

state's share of electricity generation likely will decline to 40 percent by 2020. However, ONE will continue to be solely responsible for distribution and transmission of electricity in Morocco.

In 2003, Morocco had an installed generating capacity of 4.8 gigawatts (GW). The country's two largest electricity power stations at Mohammedia and Jorf Lasfar are both coal fired. Most of the coal is imported from South Africa, although Morocco purchased Polish coal for the Jorf Lasfar power plant in April 2005. Morocco produces a small and declining amount of coal from a mine at Jerada. Jorf Lasfar became Morocco's first privately operated power station in 1997, when it was taken over by a U.S.-Swiss consortium. The consortium expanded the plant's capacity to 1,400 MW in 2001.

The expansion at Jorf Lasfar is consistent with a wider campaign to increase generating capacity in Morocco. In 2005, as part of the Moroccan government's plan, a \$500 million, 350 - 400-MW combined-cycle power plant began operation in Tahaddart. The plant is owned by ONE (48 percent), Spanish energy firm Endesa (32 percent) and German energy firm Siemens (20 percent). In addition to the Tahaddart plant, ONE awarded Endesa the development rights of a two-unit, 800-MW gas-fired power station in the Sidi Kacem Province, with a completion date set for 2008. ONE is also considering another pumped storage plant in the Azilal region south of Rabat.

Renewable Energy

Renewable energy plays a key role in ONE's \$3.4 billion energy development plan, announced in January 2004. The goal is to provide 80 percent of rural areas with electricity by 2008, while increasing the share of renewable energy from 0.24 percent in 2003 to 10 percent in 2011. The plan calls for two new wind projects, as well as a 200 - 250-MW thermo-solar facility in d'Ain Beni Mathar, of which 30 MW will be generated from solar power. One of the wind power facilities (60 MW) will be located in Essaouira, while the other (140 MW) will be located near Tangiers. The Essaouira facility is scheduled to come on-line in 2007.

Morocco has additional renewable resources that could be developed, which the countries four perennial rivers and many dams with hydroelectric potential. In May 2005, ONE selected Tamsol for a \$27.6 million project to supply solar power to 37,000 rural homes by 2007. Similar contracts were awarded in May 2002 to a consortium led by Total Energie and in January 2004 to Apex-BP. Currently, only 55 percent of outlying villages have access to electricity.

Nuclear Energy

Morocco has expressed interest in nuclear power for desalination and other purposes. In September 2001, the government signed an agreement with the United States establishing the legal basis for constructing a 2-MW research reactor. Morocco signed an agreement with the U.S. company, General Atomics, to construct the research reactor east of Rabat.

Regional Integration

Morocco is gradually integrating its electrical grid with those of its neighbors in Africa and Europe. [Maghreb integration](#) has been spearheaded by the Maghreb Electricity Committee, with physical integration initiatives that began in the 1990s. In May 2003, Moroccan representatives met with the Energy ministers from other European and Mediterranean countries to discuss the feasibility of electricity market integration. Tunisia, Algeria, and Morocco acknowledged that they would like to eventually link their electricity systems to the E.U.'s single energy market. In December 2005, Morocco, Algeria, Tunisia and the European Union signed a funding agreement that will pay for costs related to studying the electricity market within the three countries and how they might integrate into the European electricity market.

Tunisia

Tunisia's economic growth primarily comes from oil, agriculture and tourism.

Tunisia is a North-African country that gained its independence from France in 1956. In 2004, Tunisia re-elected President Zine al-Abedine Ben Ali to his fourth, five-year term. The Tunisian parliament made the fourth term possible after passing a new constitution in April 2002. In addition to economic reforms, President Ben Ali has pursued a process of democratization, legalized political opposition parties and guaranteed them 20 percent of parliamentary seats. [Critics](#) note, however, that substantial progress can still be made in areas including freedom of press, human rights, and separation of powers.



In 2005, Tunisia experienced slightly slower real gross domestic product (GDP) growth (4.0 percent), than the previous four years (2000 – 2004), which averaged 4.6 percent growth. Industry analysts attribute the slower growth to a slowdown in the agriculture and fishing industries during 2005. However, industry analysts are expecting a revival of the tourism industry to bolster GDP growth in 2006, increasing it to 5.8 percent.

Tunisia has traditionally maintained high tariffs to protect domestic industries. The International Monetary Fund (IMF) has urged that these tariffs be reduced as part of Tunisia's "second-generation reforms." Many tariffs were lowered with regards to Europe as part of Tunisia's 1995 [association agreement](#) with European Union, which came into force in 1998. In addition to integrating its economy with that of Europe, Tunisia has pursued closer relations with its North African neighbors. In May 2001, Egypt, Jordan, Morocco and Tunisia [agreed to set up a free trade zone](#) ahead of the 2010 target for trade barriers to end in the Euro-Mediterranean area. The Great Arab Free Trade Zone is expected to eventually encompass 10 Arab nations.

Privatization of Tunisia's state-owned enterprises (SOEs) is moving ahead slowly. Since 1987, around 160 SOEs have been at least partially privatized. In the long run, Tunisia sees privatization as a way of creating jobs by making its economic climate more attractive to investors. Tunisia's unemployment rate remains at high levels (officially 14 percent, but likely higher). As close to 55 percent of the work force is under the age of 25, significant job creation is needed.

Tunisia has to import oil in order to satisfy consumption demand.

Oil

As estimated by OGJ, Tunisia had modest proven oil reserves of 308 million barrels as of January 2006. The majority of Tunisia's oil reserves are located in the Gulf of Gabès and the Ghadames Basin in the southern part of the country. In 2005, Tunisia produced around 75,000 barrels per

day (bbl/d) of crude oil. This represents a 37 percent decline from Tunisia's peak output of 120,000 bbl/d between 1982 and 1984. Currently, the country's domestic oil production capacity cannot meet the country's consumption demand, which in 2005, was 94,000 bbl/d. Tunisia should be able to supply at least part of its own petroleum needs for the next decade, but significant production thereafter will be contingent upon new discoveries.

Sector Organization

The Tunisian government created the country's state-owned oil company, Entreprises Tunisiennes d'Activités Pétrolières (ETAP), in 1972. ETAP's mission is to manage the oil and natural gas exploration and production activities for the Tunisian government. ETAP has worked to attract foreign firms to fund oil exploration, particularly of the country's smaller fields. To help achieve this, Tunisia reformed its hydrocarbons laws in August 2000. One of the most important provisions of the new laws for foreign firms is a reduction in the tax rate from 75 percent to 50 percent if ETAP takes a 40 percent share of the concession. To date, ETAP has granted a total of 44 exploration licenses to 42 international and domestic companies that operate in the country.

In addition to granting domestic exploration licenses, ETAP is pursuing overseas exploration and production. The company is working in Syria with Preussag of Germany to develop small oilfields and has signed an oil cooperation agreement with Iraq. In December 2004, the Syrian and Tunisian governments signed an agreement to explore for oil in northeastern Syria. ETAP also has joint venture agreements with Sonatrach of Algeria and Libya's National Oil Company.

Production

The majority of Tunisia's oil production (73 percent) comes from six concessions, which include Adam, Ashtart, Didon, El Borma, Miskar and Oued Zar. The remaining production comes from 26 smaller concessions. In 2005, Adam field, located in the Borj el Khadra prospect in Ghadames basin, became Tunisia's largest producing oilfield at 18,000 bbl/d. The Borj el Khadra prospect is operated by Agip, with partners Pioneer Natural Resources, Paldin Resources and ETAP. The onshore El Borma oilfield, which Agip discovered in 1964 near the Algerian border, produces around 12,000 bbl/d. This production level is down from the 1985 peak of 70,000 bbl/d. Ashtart field, which is operated by ETAP, produces around 11,500 bbl/d.

In addition to Tunisia's producing oil fields, foreign and domestic operators are continuing to explore and develop new hydrocarbon discoveries in the country. A partnership between a Tunisian and a Kuwaiti oil firm is drilling an offshore well with expected reserves of 6 million barrels of oil. Sweden's [PA Resources](#) (PAR) is involved in development and exploration in the Douleb field, the Zarat concession and the Tamesmida field and Sweden's Lundin Petroleum operates a number of offshore fields - notably, the Isis and Oudna fields. In February 2004, Tunisian independent HBS Oil Company announced an oil discovery on Djerba Island. Petroceltic announced in December 2004 that it had struck both oil and gas at its Sidi Toui 3 well in the Ksar Hadada Block in southern Tunisia. In April 2005, the U.A.E.'s Mabdallah Saad al-Thani Corporation announced a five-year exploration agreement with ETAP for the El Jem block, while U.S.-based Rigo Oil Company announced an exploration agreement for the Tozeur-Sud block. In February 2006, Tunisia awarded Petro Canada and Anadarko 2-year, production sharing agreements (PSAs) with ETAP for the Cape Sirat and Bashtar blocks.

In February 2006, a 35-year-old oil exploration dispute between Tunisia and Malta came to a close. The two countries signed an agreement that provides for joint oil development of the continental shelf between Malta and Tunisia. The ministers who signed the agreement are hopeful of finding oil in the continental shelf area, which is located near the Tunisian Isis field and Libya's offshore Bouari field.

Refining and Downstream

Tunisia's only refinery at Bizerte, operated by government-owned Société Tunisienne des Industries de Raffinage (STIR), has a production capacity of 34,000 bbl/d. Plans proposed in the early 1980s to double the capacity of the refinery have been dropped. Because of its relative lack of refining capabilities, Tunisia exports crude oil and imports refined products. In December 2005, the Tunisian Ministry of Industry and Energy opened bidding to private companies on a project to build a new refinery at La Skhirra. Ideally, the refinery would have a minimum capacity of 120,000 bbl/d, be built on a build-own-operate basis adjacent to the La Skhirra oil terminal and begin operations in 2010. The ministry plans to award the project by June 2007.

Tunisia has five oil export terminals on the Mediterranean coast. The largest of these is La Skhirra, on the Gulf of Gabes. A 22,000-bbl/d, 78-mile pipeline between the Sidi El Kilani oilfield

and La Skhirra was inaugurated in March 2001. La Skhirra also handles about 22 percent of Algeria's oil exports. It is linked to the Illizi Basin oilfields in southern Algeria by a 480-mile pipeline. Other Tunisian oil terminals include Gabes, Zarzis, Bizerte and the Ashtart offshore terminal.

Tunisia is increasingly looking to natural gas to satisfy the country's energy needs.

Natural Gas

Tunisia is increasingly turning to natural gas to meet domestic energy demand. The state-owned natural gas and electricity company, Société Tunisienne de l'Electricité et du Gaz (STEG) has promoted the use of natural gas through an incentive system that began in 2005. According to STEG, natural gas represented 44 percent of the total initial energy consumption in Tunisia in 2005, compared to just 14 percent in 2003. OGJ estimates that in January 2006, Tunisia had 2.75 trillion cubic feet (Tcf) of proven natural gas reserves. Around two-thirds of the reserves are located offshore. In 2003, Tunisia produced 76 billion cubic feet (Bcf) of natural gas, while consuming 136 Bcf of natural gas during that same year.

The majority of Tunisia's natural gas output comes from Miskar field, located about 80 miles offshore in the Gulf of Gabes. The field was discovered in 1975 by Elf, but is now fully owned and operated by **British Gas (BG)**, the largest investor in Tunisia's energy sector. According to BG, the field contains 1.5 Tcf of natural gas reserves. In 2005, Miskar field achieved record production levels of 200 million cubic feet per day (MMcf/d) of natural gas, which supplied more than 50 percent of Tunisia's total natural gas demand. In collaboration with the Tunisian government, BG has installed new offshore compression equipment in order to expand the output of the Miskar field. BG has a Miskar natural gas sales contract with STEG, giving it the right to supply at least 230 MMcf/d on a long-term basis.

BG also holds the Amilcar and Ulysse exploration permits in the Gulf of Gabes. BG is looking to develop the Hasdrubal oil and natural gas field, which is located in the Amilcar permit. The company has indicated that the Tunisian government is close to finalizing a \$600 million plan to develop the Hasdrubal field. BG is planning on bringing the Hasdrubal natural gas and gas condensate field onstream by 2009, with gross output of 30,000 bbl/d of oil equivalent. In 2007, BG intends to complete a drilling program in the Ulysse exploration permit area, also located in the Gulf of Gabes.

Tunisia has four other producing natural gas fields (El Franning, El Borma, Baguel, and Zinnia). Together, these fields account for most of the remaining domestic natural gas production.

Trans-Mediterranean Pipeline

The 20-year-old Trans-Mediterranean (TransMed) pipeline, with 1,300-Bcf-per-year-capacity, transports Algerian natural gas to Sicily, crossing the Mediterranean from Cap Bon. Tunisia receives royalties (5.25 - 6.75 percent value of the natural gas, in cash or in kind) from the pipeline as payment for access through its territory. In May 2005, Agip, which operates the TransMed pipeline along with Algeria's Sonatrach, agreed to expand the capacity of the Tunisian section of the pipeline by 113 Bcf/year by 2008. In a second expansion to be completed by 2012, the capacity of the Tunisian section will be increased by an additional 117 Bcf/year, bringing total capacity to a maximum of 1,183 Bcf/year.

The majority of Tunisian electricity is generated through thermal power plants.

Electricity

The vast majority of Tunisian electricity is generated by fossil fuel plants. In 2003, Tunisian overall power generating capacity was 2,900 megawatts (MW). Of that capacity, 97 percent came from thermal power plants, with the remainder accounted for by hydroelectric and wind plants. In 2004, the Tunisian government invested \$687 million in the country's energy sector to increase electricity production in existing thermal plants, as well as facilitate the search for additional oil and gas deposits.

In 2003, Tunisia generated 11.56 billion kilowatthours (Bkwh), and consumed 10.76 Bkwh, up from 10.03 Bkwh in 2002. Much of this growth reflects the increasingly comprehensive nature of the Tunisian grid. Information from the government-owned electric utility, Société Tunisienne de l'Electricité et du Gaz (STEG) indicates that 96 percent of the country now has access to electricity, compared to 86 percent in 1994.

Until 1996, STEG had a monopoly over power production, distribution and pricing, and the utility still generates approximately 80 percent of Tunisia's power. In 2002, Tunisia's first independent power plant (IPP), a \$261 million, 471-MW, combined cycle (natural gas and diesel-fired) power project went online at Rades. It is owned and operated by the Carthage Power Company - a

consortium comprised initially of U.S.-based Public Service Enterprise Group (PSEG) (60 percent) and Japan's Marubeni Power Holdings BV (40 percent) - on a 20-year build-own-operate-transfer (BOOT) basis. In May 2004, PSEG sold its stake in Carthage Power Company to BTU Power. In July 2003, Tunisia's second IPP, a 30-MW associated gas plant operated by [CME Energy](#) commenced commercial operations.

In addition to already established IPPs, Tunisia is encouraging other projects in order to reach its goal of an installed capacity of 3,540 MW. In March 2004, BG signed a Memorandum of Understanding (MoU) to construct a \$250 million, 500-MW power plant ([Barca Power](#)) near Sfax. As of December 2005, this project was still under discussion. BG also plans to build a Liquefied Petroleum Gas (LPG) plant that will serve the Tunisian market.

Renewable Energy

Tunisia is working to develop renewable energy resources. In May 2003, Tunisia announced that 12 additional windmills would be added to the wind farm in Hawariya, bringing total capacity to 20 MW. Separately, the Global Environment Facility (GEF) is providing \$10.5 million to build windmills in Tunisia. GEF expects that its initial investment will be followed by an additional \$106 million in private funding in order to generate 100 MW. The German Technical Cooperation Agency also is providing money for wind power. December 2004 marked the launch of the Mediterranean Renewable Energy Center in Tunis, an agency to promote and develop renewable technologies across North Africa.

Trans-Maghreb Electricity Integration

Tunisia is part of a trans-Maghreb project to link the power grids of all the Maghreb countries to those of Spain and the rest of the European Union; however, Tunisia's domestic power grid must first be upgraded to meet domestic demand and ensure greater reliability. The African Development Bank, the European Investment Bank and the Kuwait-based Arab Fund for Economic and Social Development have all provided loans for various upgrades. In March 2004, a Spanish-led consortium won a \$30.6 million contract to work on the modernization of Tunisia's power grid. Tunisia already is linked to Algeria's electrical grid, and efforts to connect to Libya's grid have begun. When the two networks are connected, an integrated North African power grid will stretch from Morocco to Egypt.

Tables

Table 1: Economic and Demographic Indicators - Arab Maghreb Union

Country	Gross Domestic Product (GDP), 2005E (Billions of U.S. \$)	Real GDP Growth Rate, 2005E	Real GDP Growth Rate, 2006F	Per Capita GDP, 2005E	Population 2005E (Millions)
Algeria	\$96.0	6.4%	6.4%	\$2,916	32.7
Libya	\$32.8	6.5%	6.7%	\$5,669	5.8
Mauritania	\$1.3	5.4%	26.0%	\$470	2.8
Morocco	\$52.1	1.9%	4.3%	\$1,679	31.1
Tunisia	\$29.3	4.0%	5.8%	\$2,925	10.0
Regional Total/Weighted Average	\$211.5	4.9%	5.9%	\$3,024	82.4

Sources: Global Insight

Table 2: Energy Consumption and Carbon Dioxide emission - Arab Maghreb Union, 2003

Country	Total Energy Consumption (Quadrillion btu)	Petroleum	Natural Gas	Coal	Hydro-Electric	Carbon Dioxide Emissions (Million metric tons of carbon dioxide)
Algeria	1.33	33.9%	63.7%	2.4%	0.0%	84.4
Libya	0.73	67.8%	31.6%	0.0%	0.0%	49.7
Mauritania	0.05	99.2%	0.0%	0.3%	0.8%	3.2
Morocco	0.50	62.3%	4.8%	28.9%	1.7%	33.7
Tunisia	0.34	54.2%	45.5%	0.7%	0.2%	21.3

Regional Total/Weighted Average	2.95	50.5%	42.6%	6.1%	0.3%	192.3
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Sources: EIA, *International Energy Annual 2003*

Note: Percentages may not add up to 100% due to rounding.

Table 3: Energy Supply Indicators – Arab Maghreb Union

Country	Proven Reserves		Production		Capacity	Refining
	Crude Oil, 1/1/06 (Million Barrels)	Natural Gas, 1/1/06 (Billion Cubic Feet)	Petroleum 2005E (Thousand Barrels Per Day)	Natural Gas, 2003 (Trillion Cubic Feet)	Electric Generating Capacity, 2003 (Gigawatts)	Crude Oil Refining Capacity, 1/1/06 (Thousand Barrels Per Day)
Algeria	11,350	160,500	1,352	2.9	6.8	450
Libya	39,100	52,650	1,633	0.3	4.7	380
Mauritania	1,000*	0	0	0.0	0.1	0
Morocco	1.06	60	0.5	0.0	4.9	155
Tunisia	308	2,750	75	0.1	2.9	34
Regional Total	50,760	215,960	3,060	3.3	19.4	1,019

Source: *International Energy Annual 2003, Oil and Gas Journal*

*Figure represents proven reserves as estimated by the Mauritanian government

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[EIA: Country Information on Tunisia](#)

U.S. Government

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